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ABSTRACT

This report summarizes the accomplishments and activities of the project during the third quarter. Major accomplishments include the revision of the program classification structure used in the management information system, the expansion of reference measurement within the data base, and the continued refinement of definitions and data elements in the system. Additionally, the pilot test for academic libraries was initiated at five Pennsylvania state colleges. The development of performance measures and collection measures is also addressed in this report. (Author/AP)

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Third Quarterly Report

Project No. 475AH60139
Grant No. G007603529

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DEVELOPMENT AND DEMONSTRATION OF A STATISTICAL DATA BASE SYSTEM FOR LIBRARY AND NETWORK PLANNING AND EVALUATION

April 1977

U. S. Department of Health, Education, and Welfare

Office of Education
Office of Libraries and Learning Resources

IR005095

ABSTRACT

The Third Quarterly Report of the Development and Demonstration of a Statistical Data Base System for Library and Network Planning and Evaluation summarizes the accomplishments and activities of the project during this period. Major accomplishments during this quarter include the revision of the program classification structure used in the management information system, the expansion of reference measurement within the data base, and the continued refinement of definitions and data elements in the system. Additionally, the pilot test for academic libraries was initiated at five Pennsylvania state colleges. The development of performance measures and collection measures is also addressed in this report.

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THIRD QUARTERLY REPORT

Project No. 475AH60139
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U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Office of Libraries and Learning Resources

USOE QUARTERLY REPORT

For the Period
February 1, 1977 to April 30, 1977

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DEFINITIONS OF TERMS AND ACRONYMS

ALA--American Library Association

ARL--Association of Research Libraries

DATA BASE SYSTEM--A structural means for collecting, organizing, retrieving, disseminating, and interrelating those data elements identified as being critical for library planning and management.

DATE ELEMENT--For the purposes of this project a DATA ELEMENT will be defined as a generic term used to describe the components and subcomponents: Program Categories, Subcategories, Sectors, and Program Elements making up the NCHEMS Program Classification Structure.

HEGIS--Higher Education General Information Survey prepared by NCES.

IEP--INFORMATION EXCHANGE PROCEDURES--"The Information Exchange Procedures (IEP) developed by the National Center for Higher Education Management Systems (NCHEMS) are a set of standard definitions and procedures for collecting information about disciplines and student degree programs, outcomes of instructional programs, and general institutional characteristics. These definitions and procedures have been developed to facilitate exchange of information among institutions of postsecondary education, providing institutions with some assurance that data they exchange are useful for purposes and comparisons." (NCHEMS, Technical Report 64, February 1975)

LIBGIS--Library General Information Survey prepared by the National Center for Educational Statistics.

NCES--National Center for Education Statistics, Office of the Assistant Secretary for Education.

NCHEMS--National Center for Higher Education Management Systems at WICHE.

OUTCOME MEASURES--Indicate the outcomes or products generated as a result of the activities of the program element. (Topping, NCHEMS, Technical Report 35, Rebruary 1973)

OUTCOMES--Results and impacts.

PCS--PROGRAM CLASSIFICATION STRUCTURE--The following terms are utilized by NCHEMS to describe the Program Classification Structure:

Program	Program Subcategory	Program Measures
Subprogram	Program Sector	
Program Category	Program Element	

APPENDIX C and TABLES I, II, and III provide illustrations of the PCS framework.

USOE--United States Office of Education

WICHE--Western Interstate Commission for Higher Education

WILCO--Western Interstate Library Coordinating Organization.

I. INTRODUCTION

The Western Interstate Commission for Higher Education (WICHE) was awarded Grant No. G007603529 by the U. S. Office of Education to develop and demonstrate a statistical data base system for library decision makers. Additional financial support has been provided by the states of Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, Oregon, South Dakota and Washington. The project is intended to improve management decisions through the identification, definition and structuring of library management information. The system organizes data and standardizes definitions for internal management, comparative study and state and federal reporting requirements. Initially the data base is directed at academic and public libraries. However, the flexibility of the system will allow for potential expansion to state, school and special libraries.

II. THE PROBLEM

Managers at all levels, in both the public and private sector, are being asked to make management decisions which require more information and data about their respective entities. Implicit in these decisions is the demand from funding sources that require effective and efficient use of resources with clearly defined and measurable goals. Library managers are in no different situation. Typically, library managers are now being asked to make more refined decisions on resource allocation, productivity, and impact evaluations. At the same time, the library itself is becoming more complex, increasingly requiring more sophisticated mechanisms for data collection and information manipulation.

Further, existing data collection efforts are inadequate, providing gross inventory data and minimal data sets. This is compounded by the lack of comparability and compatibility of data definitions and categories among the data collection efforts of the National Center for Education Statistics (NCES), the Association of Research Libraries (ARL) and other library data collectors.

These combined factors provide compelling reasons for the development of a new and improved statistical system to meet the needs of both the library decision makers and the library data collectors.

III. GOALS

The long-term goal of the project is the improvement of library management decision making by providing the information necessary to support a decision. The immediate goals of the current year are the identification, definition, compilation, and structuring of program elements and performance measures, which provide the information in the aforementioned long-term goal. The successful conclusion of the immediate goals will logically terminate in the development of a system for comparison of these elements with dynamic program measures resulting in invaluable assistance to library decision makers.

IV. OBJECTIVES

The achievement of the following objectives are considered to be milestones of this project:

- To design cooperatively and develop a statistical data base structure employing the existing structure of the NCHEMS Program Classification Structure (as described in earlier quarterly reports of this project).
- To modify and supplement the Program Subcategories with Program elements from other library management and statistical sources.
- To expand and refine Program Categories to be analyzed through the Program Element level for subsequent testing.
- To define clearly, standardize, and compile performance measures suitable for the library management information system.
- To identify the necessary analyses required for comparison or combination of data elements resulting in workable and meaningful measures for library decision makers.
- To identify, or develop, computer programs designed to achieve meaningful combinations for measurement.
- To devise a plan of implementation and further study.

V. MAJOR ACTIVITIES AND ACCOMPLISHMENTS DURING THE PERIOD FEBRUARY 1 THROUGH APRIL 30, 1977

A. Project Management

This project is being conducted within the Communications Base Unit of the National Center for Higher Education Management Systems at WICHE. The project director/principal investigator is Dennis Jones, Associate Director of NCHEMS and Director of the Communications Base. NCHEMS is governed by a board of 28 representatives of various institutions and agencies of higher education. In addition, this project receives guidance from an advisory group of ten members representing various interests within the library community.

B. Advisory Group Meetings

The Advisory Committee for this project consists of Robert Burns (Colorado State University), Ronald Dubberly (Seattle Public Library), Katherine Emerson (University of Massachusetts), Anne Marie Falsone (Colorado State Library), Vernon Palmour (Independent library consultant), Frank Schick (National Center for Education Statistics), Donald Simpson

(Bibliographical Center for Research), Barbara Slanker (American Library Association), and Duane Webster (Association for Research Libraries). During the third quarter, two meetings of the Advisory Committee were held.

The first meeting of the Advisory Committee was held on February 5, 1977 in Washington D.C. Also attending these meeting were Scott Bruntjen of Shippensburg State College, Willis Hubbard of Eureka College (and a representative of the Council for the Advancement of Small Colleges), Ivan Seibert of NCES, Francis Corrigan of NCES, and Henry Drennan of the Office of Libraries and Learning Resources. The purpose of this first meeting was to review the two draft documents, The Library Statistical Data Base Commentary and Formats and Definitions. Many of the revisions to these documents as reported in Section VII, Part C, of this report were the results of suggestions from the Advisory Committee.

The second meeting of the Advisory Committee was held on April 28 and 29, 1977 in Denver, Colorado. Also attending were Scott Bruntjen, and Rolf Wolfsburg of NCES. The purposes of these meetings were to discuss further revisions to the Commentary and Formats and Definitions, the development of collection description for the statistical data base, and determine appropriate performance measures for the system. Results of these meetings have been incorporated in the discussions of collection, performance, and the program structure appearing in later sections of this report.

C. Performance Measurement

On March 31 and April 1, 1977, meetings on outcome measurement were held in Denver, Colorado. In addition to project staff, the following persons participated in these meetings:

- Ellen Altman, Indiana University
- Michael Buckland, University of California, Berkeley
- Robert Burns, Colorado State University
- Richard DeGennaro, University of Pennsylvania
- Donald King, King Research
- Paul Kantor, Case Western Reserve
- Harold Olsen, California State University, San Jose
- Karl Pearson, Western Interstate Library Coordinating Organization
- Harriet Rebuldela, University of Colorado.

The purposes of the meetings were to isolate outcomes of library service, and determine relevant measures of those outcomes. Our interest was to develop measures of performance or outcomes for the library functions or programs as presently constituted within the library data base structure. Moreover, the meeting provided a forum for discussion of current research in the field of library performance, and to insure that this project was compatible and current with these endeavors.

The meeting provided a basis upon which performance measures could be developed within the context of this project. The progress made in this area during the last quarter is more fully discussed in Section VII, Part A.

D. Reference Statistics

The Library Administration Division Library Organization and Management Section, Reference Statistics Committee of the American Library Association has offered its assistance to this project in the expansion of reference (Materials Identification and Access Program) within the program classification and measurement. An initial draft of the reference expansion was submitted to Katherine Emerson, Statistics Coordinating Committee Chair, and Candace Morgan, Reference Statistics Committee Chair, for review. A second draft incorporating the suggestions of the reference statistics committee will be fielded for wider review and further revision.

Additional discussion of the reference expansion appears in Section VII, Part C.

E. Pilot Test of the Library Statistical Data Base

A pilot test of the statistical data base was initiated at five Pennsylvania State Colleges. The purpose of the pilot test is to test the validity of the program classification structure, to determine the usefulness of the data requirements to the institutions, and assess the value of data collection. The pilot test focuses upon financial, personnel, collection and activity measurement. Each institution will evaluate the data base requirements and comment on the practicality of the information acquired.

Other data for testing the statistical data base are also forthcoming from the Council for the Advancement of Small Colleges. These library data already collected by CASC will be manipulated to determine meaningful relationships among data to provide management information.

Both sets of data will be used to test the Mark IV File Management System for use within the statistical data base. The system is a product of Informatics, Inc., and provides simple access to file maintenance and to the functions related to reporting data.

F. Draft Glossary of Library Statistics Terms

Throughout the development of the library statistical data base, consistency (where possible) has been maintained with the definitions of library teminology forwarded by the profession. Definitions employed within the program classification structure have paralleled or coincided with those definitions forwarded in such sources as the American Library Association Glossary of Library Terms, the National Center for Education Statistics Library General Information Survey (LIBGIS), and the American

National Standard Z39.7 Library Statistics. Most recently a draft of Glossary of Library Statistics Terms to be published by the National Center for Education Statistics was provided to this project. The glossary is presently under review by members of the ALA Library Administration Division Library Organization and Management Section Statistics Committees. Insofar as possible, terms and definitions employed within the program structure of the data base have been refined to be consistent with the glossary and the revisions suggested by these committees. In cases where discrepancies exist between definitions employed in the glossary, and the statistical data base, differences are in wording and extent of definition, rather than intent or meaning.

VI. PROBLEMS

No problems were incurred during the third quarter of this project.

VII. SIGNIFICANT FINDINGS AND EVENTS

The milestones of the third quarter include: (A) The preliminary development of performance measures for the library statistical data base; (B) The refinement of collection measurement; and (C) The revisions made to the statistical data base as reflected in the two documents Library Statistical Data Base Commentary and Formats and Definitions.

A. Performance Measurement

In the context of the statistical data base it is necessary to establish distinctions between measures of performance or outcomes and measures of activity. Simplistically, activity measures indicate the level or amount of various kinds of activities conducted within the library (e.g., counts of the numbers of items produced, or the numbers of reference questions that are received, the numbers of patrons served, etc.) On the other hand, outcome measures serve to indicate what was accomplished (what purpose or objectives were achieved) as a result of this programmatic activity.

An example may help. We can find that an interlibrary loan office processes 2,000 requests per month. These data represent an activity measure; it tells us how much of a particular type of activity (how much work load) has been placed on a particular component of the library. It does not tell us what the unit accomplished--how satisfactorily it performed--however. To do that requires other data --data about such things as the number of requests satisfactorily filled within a particular time period. The latter measure is an outcome or performance measure.

An initial step in determining library outcome or performance measures is the identification of the range of desired results and impacts of various library programs (i.e., administrative services, user services, technical services, collection development, etc.) Summarizing some of the goals typically stated for libraries as a whole, we find the following:

- To provide, or make accessible, information desired by, and relevant to the library patron;
- To pool information resources into a collection available to the patron;
- To preserve recorded materials and make information available in the present and future;
- To assist in the acculturation of society by preserving social heritage;
- To interpret for the patron information and information sources;
- To supplement student growth and community development.

Each of these statements of library goals suggest different measures of library outcome or performance. For example, accessibility of desired information may be measured by the period of time which elapses between the time at which a document or specific information was sought and the time in which a book or a piece of information is provided to the user. In this context, it is important to note that measures of outcomes relative to the particular goal suggest the possibility of a number of outcome measures with different ones being developed for each of the various library programs. Thus, a series of performance measures have been constructed and reviewed by the advisory board. The performance measures are based on the program classification structure, providing a suggested measurement for each of the programmatic activities.

B. Collection Measurement

During the course of the statistical data base development it became clear that library collections which represent a fundamental resource to the library did not easily relate to the program classification structure proposed. In an attempt to remedy this, collection and its measurement has been removed from the classification structure and addressed separately.

Collection as a resource has several dimensions, or levels, which need description within the statistical data base. On one level there are the physical dimensions of the collection, which most obviously affect the storage requirements of the resource, and the handling and processing necessary to control the resource. On another level, there are the intellectual dimensions of the collection which describe the resource in terms of bibliographic content, along with depth and breadth of that content. Finally, the interaction of the resource and the user represents the utility of the resource. This latter dimension can be defined by such measures as relevancy, age, accessibility, availability and utilization of the resource.

Physical dimension of the collection is addressed within the statistical data base. As such, it is measured in terms of the numbers, and formats, of holdings. Conceivably, the length of shelf space utilized, the number of oversized print materials, and the square footage required to house microform and nonbook materials could be of importance in the physical description of the collection. For the present, however, we have limited our attention to physical volumes or items by form of publication.

The intellectual dimensions of the collection play an essential part in description. For this reason, we have described the collection in terms of titles and bibliographic volumes. However, further qualitative descriptors of intellectual content are appropriate. For instance, the scope of the collection is fundamental to the determination of the capability of the resource in meeting general information requirements, while depth of collection describes its capability in meeting specialized information needs. In order to measure either of these characteristics, we have suggested the use of the classification structure and shelf list as the presently best basis for such a measure. There are inherent problems given the often unique classification employed in some libraries. However, classification remains the most simplistic descriptor of content. Initially we have suggested as measurements of collection breadth:

- the number of titles and percentage of collection held by each subject area,

- the number, and percentage, of periodical titles received on subscription by subject area,

- the number of titles, and percentage of acquisitions, currently acquired by subject area,

- the percent, and dollars, invested in materials by subject area.

Depth measurement is more problematic. Although the relative density of holdings in subject areas may represent the effort and priority placed on these catagories, density fails to describe the "level" of materials held. The following measures were suggested to the advisory board as possible:

- number, and percent, of technical journals received on subscription by subject area,
- number, and percent, of technical journals, articles and reports requested by library patrons through interlibrary loan by subject area,*
- number, and percent, of reference requests for technical information which are satisfactorily answered from materials in the library collection by subject area,
- number, and percent, of titles by subject area requested by faculty, graduate students and research personnel which are not available in the collection,*
- number, and percent, of periodical titles by subject received on subscription for the primary audience of faculty, research personnel, or graduate students.

Measuring the utility of the collection to the user is a step towards assessing the "value" of the collection. Unfortunately, there is not an objective standard of utility. Instead, a series of considerations must be addressed:

- Relevancy of the collection to the library's clientele,
- Accessibility of the collection to the library's clientele,
- Availability of the title requested by the library's clientele,
- Utilization of the collection by the library's clientele.

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*The reader should note that cooperative collection development agreements in specified subject areas should increase interlibrary loan activity in that subject, and as such is not a measure of the failure of the resource to meet the needs of the clientele.

Relevancy includes such factors as "appropriate" intellectual dimensions (i.e., depth and breadth), age of collection, and capability of collection to fill the needs of the users. For academic libraries, it is fundamental to relate the classification structure employed to the programs offered by the institution. For public libraries, it may be equally important to relate population characteristics to collection categories. We propose the following as possible measures of relevancy:

- Number, and percent, of user requests by subject area filled by materials in the collection,
- Number, and percent, of interlibrary loan requests by subject area,
- Number, and frequency, of titles circulated by subject area,
- Percent of collection by subject area that circulates,
- Frequency distribution of date of publication of holdings by subject area,
- Frequency distribution of date of publication for current acquisitions by subject area,
- Number and percent of titles held by subject area that are appropriate to user level and type (e.g., children, young adults, undergraduates, graduates),
- Number, and percent, of titles held in the collection by program disciplines offered by the institution,
- Number, and percent, of periodical titles received on subscript by program disciplines offered by the institution,
- Number, and percent, of titles currently acquired by program disciplines offered by the instituion,
- Average number of titles in subject area per student enrollment in related program discipline,
- Credit hours taught per material circulated by discipline,*
- Percent of materials budget, and percent of acquisitions effort devoted to collection by program discipline.

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*McGrath's studies indicate that student enrollment in programs is not as relevant as credit hours taught by discipline.

Accessibility and availability may affect utilization and user satisfaction. Accessibility, as used in this document, refers to the physical positioning of materials within the collection, and the ease with which the user can locate the desired material. On the other hand, availability clearly relates to whether the title or information requested is held in the collection at all. Measures of accessibility include:

- Number, and percent, of titles requested from off-site storage,
- Average lag time from request for materials in storage to the time the patron receives the requested item,
- Number, and percent, of titles requested which are in circulation, and for which no duplicate copies are available on the shelves,
- Number, and percent, of titles requested which are misshelved,
- Number, and percent, of titles which are owned but cannot be located in the catalog by the patron unassisted,
- Number, and percent, of titles requested which are in processing (acquisitions, cataloging, or end-processing).

Measures of availability include:

- Number of titles, and frequency of requests for titles, by subject area that are not owned by the library,
- Number of titles, and frequency of requests for titles, by subject area that are requested through interlibrary loan,**
- Number of articles by journal title and subject area which are requested through interlibrary loan,**
- Percent of current publications by subject area presently procured by library,
- Percent of publications appearing in appropriate book lists, and candidates for awards, presently in the library collection.

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*See footnote on page 3.

C. Revisions to the Program Classification Structure

The two documents, Library Statistical Data Base Commentary and Formats and Definitions (discussed in the second quarterly report), were the subject of great scrutiny during the third quarter. Suggestions forwarded by members of the Advisory Committee, as well as those from other members of the library community, were incorporated into the two documents. In addition, reference (materials access/identification) services were the subject of expansion within the two documents. Further revisions were also forthcoming from the work done by the LAD/LOMS Technical Services Statistics Committee and presented in their draft of a questionnaire for the collection of statistics within technical services in public and academic libraries.

The most significant changes occurred within the program classification itself. As Table VII-A indicates, both Administrative Services and Technical Services were expanded or refined to include some of the major concerns within the library community. Administrative Services at Level 2 were refined to isolate activities associated with long-term organization planning, and staff development (e.g., continuing education, sabbaticals, etc.). Technical Services were expanded to include collection development, and refined to separate materials organization and control from materials finishing and bindery activities. These changes contribute to a clearer and well-defined examination of the library. At Level 3, the program categories were broadened to encompass more of the possible areas of consideration at this level of refinement.

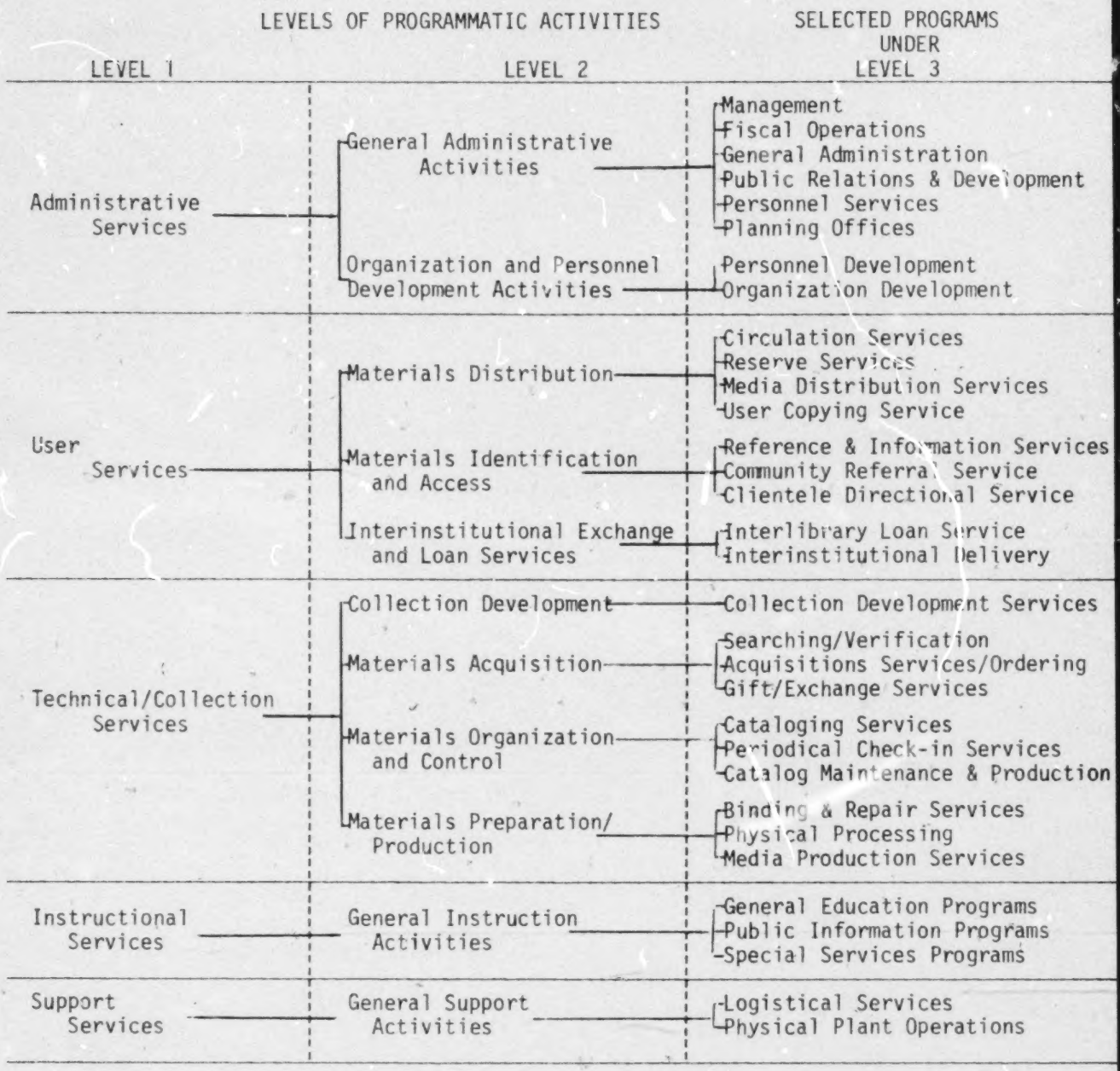
One of the most serious obstacles inherent in the development of a library management information system is the need for flexibility in structure, yet stringency in definition. The flexibility of structure is imperative in order to meet the various needs of different types and sizes of library. However, definitions must be both mutually exclusive and comprehensive. These criteria, along with the compelling need of the system to be consistent with other achievements within the field of library statistics, have often led to conflicting or vague terminology within the library statistical data base. In trying to overcome some of these weaknesses in the draft documents, definitions for the program classifications have been tightened. The most obvious instance of this, is the potential overlap of Materials Access/Identification Services, and the Instructional Services. Here we have divorced instruction in the use of the library, library materials, and catalogs and reference tools from instructional services, incorporating this type of instruction within reference services.

A draft of potential measures for reference within the context of the statistical data base was submitted to Katherine Emerson, Statistics Coordinating Committee Chair, and Candace Morgan, Reference Statistics Committee Chair, for review and comment. A second draft of the reference expansion is in preparation. In addition, the draft has been submitted to other members of the ALA LAD/LOMS Reference Statistics Committee for comment. These measures have already been incorporated into the Commentary and Formats and Definitions, and will be refined as the reference expansion proceeds.

The development of activity measures within technical services was assisted by the recent release of a draft statistics reporting form by the LAD/LOMS Technical Services Statistics Committee. Many of the suggested measures of the forms were included in the documents. Activity Measures, in general, were also expanded and refined.

Activity measurement has been expanded within the statistical data base. A selective list of these appear in Appendix C. Several of these additions have been precipitated by the examination of performance measures and a clear delineation between performance and activity measures.

Table VII-A


LEVELS OF PROGRAMMATIC ACTIVITIES
LEVEL 1
LEVEL 2
SELECTED PROGRAMS UNDER LEVEL 3
Administrative Services
General Administrative Activities
Management
Fiscal Operations
General Administration
Public Relations & Development
Personnel Services
Planning Offices
Organization and Personnel Development Activities
Personnel Development
Organization Development
User Services
Materials Distribution
Circulation Services
Reserve Services
Media Distribution Services
User Copying Service
Materials Identification and Access
Reference & Information Services
Community Referral Service
Clientele Directional Service
Interinstitutional Exchange and Loan Services
Interlibrary Loan Service
Interinstitutional Delivery
Technical/Collection Services
Collection Development
Collection Development Services
Materials Acquisition
Searching/Verification
Acquisitions Services/Ordering
Gift/Exchange Services
Materials Organization and Control
Cataloging Services
Periodical Check-in Services
Catalog Maintenance & Production
Materials Preparation/ Production
Binding & Repair Services
Physical Processing
Media Production Services
Instructional Services
General Instruction Activities
General Education Programs
Public Information Programs
Special Services Programs
Support Services
General Support Activities
Logistical Services
Physical Plant Operations

Materials Identification/Access was chosen for expansion during the third quarter. As discussed earlier, this expansion has been completed with the cooperation of members of the reference statistics committee of ALA. The expansion is still under review by the members of this committee. Materials Identification/Access at Level 3 was divided among directional services, reference and information services, and community referral services. This distinction, or refinement, is still under discussion. It is felt that by divorcing community referral services from reference and information services, confusion may develop. However, since Level 3 is only appropriate to the largest libraries, and since categorization at Level 3 is optional, the resolution of this refinement may be simplified. Further, the development of separate community referral files and departments among the largest public libraries may predict the manner in which this dilemma is resolved. Presently, the following data elements are being considered for incorporation into the materials identification/access module of the data base:

Facilities

- Available seating in reference service points
- Number of reference service points/outlets
- Shelving space available within reference service areas.

Personnel

- Relevant advanced degrees held by exempt reference personnel.

Activities

- Number of hours reference service personnel available in reference service points/outlets
- Volumes reshelved from reference collection by service outlet/point
- Type of search conducted by source of answer (ready reference, reference collection, general collection, personnel resource, or out-of-library resource)
- Number and type of bibliographies and special catalogs produced by reference personnel for mass distribution
- Number of classes taught in the instruction of the library, catalog, library use, materials use or other library and research methodologies

- Number of student contact hours in the instruction of library, catalog, library use, materials use or other library and research methodologies

- Number of students receiving instruction in library use, catalog use, or other library and research methodologies

- Location (abstracts, indexes, bibliographies, fact-finders, files, other) of answers to reference transactions found within reference collection

- Group presentations, number, and persons contacted in library tours.

Additional consideration has been given to the data requirements for description of the reference collection. At present the following collection measures are under discussion:

- Number of titles and volumes of abstracts, indexes, bibliographies, fact-finders (almanacs, etc.) vertical file materials and others

- Number of card file index entries developed for reference or community referral services.

In addition, the number of data bases accessed by the library, and specially developed files for reference and community referral are included. It is expected that refinement of the materials identification/access services will continue through the fourth quarter.

VIII. DISSEMINATION ACTIVITIES

The Third Quarterly Report has been sent to those individuals and members of those organizations appearing in Appendix B.

At ALA Mid-Winter, a summary of the project was presented to the members of the LAD/LOMS Statistics Coordinating Committee, representing the chairpersons of all of the ALA Statistics Committees.

IX. STAFF UTILIZATION

During the third quarter, Dennis Jones, Project Director/Principal Investigator for this project devoted .05 FTE to management, planning and oversight of the project. Maryann Brown is assigned full-time to this project, and was responsible for document revision, reference expansion, and collection measurement. Anita McHugh devoted .5 FTE to

definition development and quality control, and to preparation of MARC IV programs for use on pilot test data. Ed Myers as a .25 FTE on this project was responsible for the development of performance measures for the library. All project staff is involved in the review of products and revision. Secretarial assistance is provided by Mary Haenselman at .3 FTE.

X. ACTIVITIES PLANNED FOR THE NEXT REPORTING PERIOD

During the next and final reporting period for this project, the following specific tasks are to be accomplished:

- Expanded field review of the data base structure, and documentation,
- Final revisions to the program classification structure and measures,
- Determine and define data elements required for performance measures,
- Meet with the Advisory Committee for a final review, and evaluation of the project and resulting products,
- Complete pilot test, and manipulate pilot test data,
- Evaluate structure and measures as determined through the pilot test, and
- Complete final documentation for the project.

XI. FINANCIAL REPORT

The financial report for this project appears in Appendix A.

APPENDIX A

FINANCIAL REPORT

SUMMARY BUDGET AND EXPENDITURES THROUGH APRIL 30, 1977

	Budget	Total Previously Reported	Expenditures this period	Total Expenditures through 4/30/76	Unexpended Balance
USOE					
Salaries & Benefits	$32,877.00	$9,845.01	$13,634.94	$23,479.95	$9,397.05
Consultants, Advisory Board & Evaluator	10,620.00	1,810.35	4,681.69	6,492.04	4,127.96
Staff Travel	2,400.00	20.00	2,023.54	2,043.54	356.46
Communications	1,410.00	11.49	374.65	386.14	1,023.86
Computer	2,675.00	-0-	8.33	8.33	2,666.67
Indirect Cost	9,018.00	2,700.49	3,740.06	6,440.55	2,577.45
Total USOE	$59,000.00	$14,387.34	$24,463.21	$38,850.55	$20,149.45
WICHE Matching Funds					
Direct Costs	$13,503.00				$10,932.76
Rent		$339.50	$612.02	$951.52	
Supplies		5.20	138.64	143.84	
Copying		14.51	609.91	624.42	
Publications		214.24	138.00	352.24	
Meeting Expense		-0-	104.32	104.32	
Other Expense		184.30	209.60	393.90	
Indirect Cost	4,225.00	1,291.66	2,603.56	3,895.22	329.78
Total WICHE	$17,728.00	$2,049.41	$4,416.05	$6,465.46	$11,262.54

APPENDIX B

DISTRIBUTION LIST

RECORD OF DISTRIBUTION OF THIS REPORT

Total Number of copies printed: 150

One copy was sent to each of the following except where otherwise indicated.

Western Council Members (11)

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Helen Miller, Idaho
Barry Porter, Iowa
Alma Jacobs, Montana
Joseph Anderson, Nevada
Marcia Lowell, Oregon
H. Vince Anderson, South Dakota
Roderick Swartz, Washington

Advisory Committee Members (10)

Robert Burns, Librarian for Research and Development, Colorado State University, Fort Collins

Ronald Dubberly, City Librarian, Seattle, Washington

Katherine Emerson, Archivist, University of Massachusetts, Amherst

Anne Marie Falsone, Deputy State Librarian, Colorado State Library, Denver

Harold Olsen, Associate Librarian, Oberlin College, Oberlin, Ohio

Vernon Palmour, Library Consultant, Vienna, Virginia

Frank Schick, National Center for Education Statistics, Education Division, Washington

Donald Simpson, Director, Bibliographical Center for Research, Denver

Barbara Slanker, American Library Association, Office of Research, Chicago

Duane Webster, Association of Research Libraries, Washington.

U. S. Office of Education (6)

Lawrence Papier, Program Officer, Washington, D. C.

Project Participants (5)

Scott Bruntjen, Shippensburg State College, Pennsylvania
Willis Hubbard, Eureka College, Illinois
William Williams, Wyoming State Librarian
Candace Morgan, Illinois State Library, Springfield
Eleanor Montague, University of California, Riverside

National Center for Higher Education Management Systems (NCHEMS) (7)

Dennis Jones
James Topping
Ed Myers
Ben Lawrence
Maryann Kevin Brown
Anita McHugh
Bernice McKibben

Western Interstate Library Coordinating Organization (WILCO) (1)

Karl Pearson, Director

Others (24)

Alphonse Trezza, Executive Director, NCLIS

Henriette Avram, Chief, MARC Development Office, Library of Congress

Charles H. Stevens, Executive Director, SOLINET, Atlanta

William Dempsey, Office of Analytical Studies and Long Range Planning, Plattsburgh, N.Y.

Lynn La Brake, Cornell University Libraries, Ithaca, N.Y.

Emily A. Copeland, Black Resources Information Coordinating Services, Inc., Tallahassee

Barbara E. Markuson, Indiana Cooperative Library Services Authority, Indianapolis

Peter Graham, Research Libraries Group, Branford, Conn.

Miriam A. Drake, Purdue University Libraries, West Lafayette

Glyn T. Evans, Director of Library Services, SUNY, Albany, N.Y.

Neal K. Kaske, University of California, Berkeley

Michael Cooper, School of Librarianship, Berkeley

William E. McGrath, University of Southwestern Louisiana Libraries, Lafayette, LA

Idelle Port, California State University and Colleges

Garry Almond, University of Western Ontario, London, Ontario

W. Schwuchow, Studiengruppe fur Systemforschung, Heidelberg, Germany

Harold B. Schleifer, State Universoty of New York at Stony Brook

Jan Feye-Stuckas, Minnesota State Library

Anne Mitchell, State University College, Plattsburgh, New York

Bonnie Isman, Williams Public Library, Christiansted, St. Croix, USVI

Ann Allan, Kent State University, Ohio

John Edens, University of Georgia, Athens, Ga.

Don Hammer, American Library Association

John Molnar, Council of Higher Education, Commonwealth of Virginia, Richmo

APPENDIX C

ACTIVITY MEASURES BY FUNCTION

ACTIVITY MEASURES BY FUNCTION

PROGRAM AREA	ACTIVITY MEASURES
General Administrative Activities	Number of persons employed (head count) Service months of staff Operating Expenditures Salary Expenditures Library Materials expenditures Number of grants received/applied for by library Grant funding received by library (total dollars) Average person time to process fiscal transactions Average person time to process personnel transactions Number of personnel grievances handled by top level administrators Average person time spent on personnel grievances
Organization and Personnel Development Activities	Number, scope, and type of education opportunities provided through the library Number of library professional periodicals received on subscription (excluding library collection materials) Number and cost of professional membership fees paid by library for individual members Number and cost of institutional memberships in professional organizations Number of articles published by library staff (by periodical title) Number of persons acquiring new skills in professional development program by skill type Number of library staff holding appointed or elected offices in professional organizations Number of library staff utilized as consultants for institutions, libraries, or other groups
Materials Distribution	Service hours (hours library is open) per week Circulations by service outlets Charge circulation rate by service hour Circulations by type of materials (e.g., bookstock, periodicals) Circulations by subject of materials and by user characteristics Non-circulated volumes reshelved Discharge circulation rate by service hour Number of requests for items in storage Reserve Circulations Average person time to assemble and prepare items on reserve list Number of classes or groups that have items on reserve list Number of titles on reserve list
Materials Identification/Access	Service availability (hours in which services provided) per week Reference transactions by service outlet Directional transactions by service outlet Data base access Number of users asking reference questions Rate of reference transaction by service hour Average person time for reference transaction Number of users asking directional questions Rate of directional transactions by service hour Average person time spent for a community referral transaction Rate of community referrals by service hour Number and percent of reference transactions by subject area Average length of time for manual bibliographic searches Average person time devoted fo machine bibliographic searches Number, scope and average time to create special subject lists of materials prepared by reference personnel
Interinstitutional Exchange and Loan Services	ILL borrowing requests by type of request (subject, title specific) ILL borrowing circulations by type of materials (e.g., bookstock, periodical) ILL borrowing circulations by form of loan (original, photocopy) Average time to process a borrowing transaction Average labor cost to process a borrowing transaction Number of requests filled by subject area ILL lending requests (subject versus specific) ILL lending circulations by type of material (e.g., bookstock, periodical) ILL lending circulations by form of loan (original, photocopy) Average number of libraries queried to fill a request Average labor cost to prove the non-existence of an item Number of requests received by subject area Number of requests filled by subject area Number of requests which require reverification Number of lending requests renewed Number of lending requests overdue Bulk loans received Bulk loans lent

PROGRAM AREA	ACTIVITY MEASURES
Collection Development Services	Number of new titles selected Number of articles procured through ILL by periodical title Number of reorders necessary Number of rental collection books received Percent of rental collection that is eventually purchased Average person time spent in coordinating requests (merging requests) Average person time in screening requests Average labor cost of adding copies to meet demand Bibliographic volumes added/removed by type of material Titles added/removed by type of material Shelf capacity gained by weeding
Materials Acquisitions	Purchase orders initiated placed/cancelled/traced Items retained/returned from blanket purchase orders Items retained/returned from approval plans Gifts received/retained Number of gifts received from suppliers Number of items ordered that are out-of-stock Number of items ordered that are out-of-print Number of standing orders by supplier Number of items received on standing order Number of items claimed or traced
Materials Organization and Control	Number and type of materials (e.g., monograph, serial, etc.) cataloged (original, derived, brief) Average person time to catalog an item (original, derived, brief) Number and types of catalogs maintained Number of catalog cards/records produced Average labor cost per set of cards prepared and filed Average labor cost to catalog a title (original, derived, brief) Number of new subjects and subdivisions established Name authority records established Catalog records withdrawn/replaced/annotated Number of reclassifications/recataloging performed Average labor cost to recatalog a title
Materials Preparation and Production	Number of volumes converted to microform Number of titles converted to microform Number of titles received preprocessed Number of volumes bound Number of volumes rebound Number of volumes bound in pamphlet binders Number of volumes covered or reinforced Number of volumes mended or repaired Average person time to rebind items Average person time to mend or repair items Average labor cost to rebind items Average labor cost to mend or repair items Number of periodical volumes in binding backlog
Instructional Services	Number of courses offered by library by topic Number of enrolled persons in classes offered by library Number of persons teaching classes offered by library Number of student contact hours Number of story hours offered by the library Number of children attending story hours Number of film viewings offered by library Number of persons attending film viewings

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